

## INTERNATIONAL SEARCH REPORT

ational Application No  
/IB2005/050500

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 H04R31/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 H04R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, IBM-TDB

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2 716 462 A (BRENNAN JOSEPH B) 30 August 1955 (1955-08-30) column 2, line 20 - column 3, line 32 claims 1-5; figures 1,5 -----	1-19
X	US 2 408 038 A (BRENNAN JOSEPH B) 24 September 1946 (1946-09-24) column 2, line 2 - column 2, line 53 column 3, line 8 - column 5, line 74 figures 1-3 -----	1-19
X	US 3 093 207 A (BOZAK RUDOLPH T) 11 June 1963 (1963-06-11) column 1, line 39 - column 1, line 43 column 2, line 35 - column 3, line 11 column 4, line 31 - column 4, line 62 figures 1,2 ----- -/--	1-19



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

24 May 2005

Date of mailing of the international search report

06/06/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Meiser, J

## INTERNATIONAL SEARCH REPORT

International Application No  
/IB2005/050500

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 27 47 067 A1 (ELEKTROTECHNIK EHMANN GMBH; ELEKTROTECHNIK EHMANN GMBH, 6953 GUNDELSHE) 26 April 1979 (1979-04-26) page 3, last paragraph - page 6, paragraph 2 page 7, last paragraph - page 9, last paragraph figure 1 -----	1-19
A	US 5 961 762 A (ZELINKA ET AL) 5 October 1999 (1999-10-05) column 2, line 31 - column 2, line 48 column 5, line 23 - column 6, line 63 figures 1,3-5 -----	1-19

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

/IB2005/050500

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2716462	A	30-08-1955	US RE24141 E	
US 2408038	A	24-09-1946	NONE	
US 3093207	A	11-06-1963	NONE	
DE 2747067	A1	26-04-1979	NONE	
US 5961762	A	05-10-1999	NONE	